Kimmerly Ditch and Flume
Avon vicinity
Powell County
Montana

HAER No. MT-58

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
U.S. Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

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Kimmerly Ditch and Flume

HAER No. MT-58

Location: Water was diverted from the Little Blackfoot River about 3-1/2 miles southeast of Avon. The point of diversion was on the north side of U.S. Highway 12 and east of the Snowshoe Creek Road. The ditch and flume lay in Section 31, Township 10 North, Range 7 West and Sections 25, 26, 27, and 36, Township 10 North, Range 8 West

UTM: Zone 12 Begin: 382450 Easting
5159500 Northing
End: 378420 Easting
5160600 Northing
Quad: Avon, Montana, 15' (1958)

Date of Construction: c. 1920s

Builder: Jerry Mizner
Kimmerly Brothers and Company
Avon, Montana

Present Owner: Patricia Mattice
Avon, Montana

Present Use: The ditch and flume are no longer used for irrigation. The system was replaced in 1964-1965 by sprinklers.

The ditch remains virtually unaffected by recent highway improvements, but most of the flume has been removed.

Significance: The Kimmerly Ditch conveys a clear sense of association with area livestock ranching, an important foundation of the Little Blackfoot Valley's economy. It evokes the historical period during which ditches and flumes were used extensively by farmers and ranchers in irrigation. It is also associated with the Kimmerly family, early Avon-area ranchers.

Historian: Mitzi Rossillon
Montana Department of Highways
February 1990

I. HISTORY

The Kimmerly Flume and Ditch was constructed in the 1920s by Jerry Mizner for Kimmerly Brothers and Company of Avon, Montana. The entire system measured approximately 3-1/4 miles long, while the flume measured about 2,000 feet long where it rounded a rocky point locally known as Kimmerly Point. The metal flume was manufactured by the R. Hardesty Manufacturing Company of Denver, Colorado, using ARMCO steel; the timber trestle substructure was made locally with lumber from the Kimmerly family's small sawmill. The ditch and flume were used until about 1965, when sprinklers replaced the historic system.

A. Kimmerly Family

Alfred Kimmerly moved to the Little Blackfoot Valley in 1873, following his brother, Allen. Born and raised in Hastings County, Ontario, the brothers were attracted to the West by gold fever or perhaps just the excitement of the unsettled West. Although Alfred spent a short stint of mining near Blackfoot City, about 5 miles northeast of present-day Avon, he actually began his lifetime career as a rancher when he moved to Oregon for two years in the mid-1870s and worked for a sheep rancher. He accepted sheep as payment from the rancher, which he then moved to Dog Creek, which was near to what would later become the community of Avon. Alfred apparently settled on his homestead in 1875 and patented 160 acres in 1884. Over the next 25 years, Alfred and his wife, Sarah (also from Hastings County), built a large sheep operation.[1]

After Alfred Kimmerly died in 1910, followed by his wife in 1913, their three children inherited the property. Walter and Willett Kimmerly and Lottie Mizner formed a partnership called Kimmerly Brothers and Company. Walter, the youngest, ran the operation from the original homestead. Under Kimmerly Brothers and Company control, the business continued to prosper into the 1920s, with about 11,000 acres north and south of Avon owned outright by the partnership. The partnership sold the ranch to George and Eva Davis in 1944, due, in part, to Walter's failing health.[2]

The change in ownership marked a change in emphasis on the ranch from sheep to cattle. George's nephew, Dan Davis, ran the ranch between 1946 and 1967. Currently, the property is owned by Patricia Mattice.[3]

B. Ditch and Flume Construction

The Kimmerly family had irrigated portions of the original homestead by diverting water from Dog Creek (now known as Spotted Dog Creek). The Kimmerly Ditch and Flume, built in the 1920s, replaced the earlier ditch system because Dog Creek did not provide ample water for the family's needs.[4] The newer ditch system irrigated about 60 acres on the original homestead. Hay for winter livestock feed was raised on the irrigated lands.[5]

The flume was constructed by Jerry Mizner, husband of owner Lottie Mizner. Jerry and Lottie's family occasionally lived at the original homestead and took part in the operation of the ranch.[6]

Mizner assembled the flume and also fabricated the wooden trestle that supported it. The Kimmerly ranch had a sawmill (including planer) about 1-1/2 miles from the intended flume site. Mizner hauled the lumber to the flume site, using a Maytag car that had been converted into a pickup. The ditch and flume reportedly cost $3,000 to complete.[7]

In 1933, the Montana Highway Commission constructed a highway through the Avon area. The route went past Kimmerly Point on which the flume had been built.[8] The highway design required that about 1,000 feet of the flume be moved. As much as was possible, the original materials were used to rebuilt the flume.[9]

C. The R. Hardesty Company

The R. Hardesty Company was the last in a series of businesses begun by Rudd Hardesty shortly after he moved to Denver in 1888.[10] The first listing of R. Hardesty & Co. in the Ballenger and Richards Denver Directory was in 1891, when Hardesty and E. J. Crocker manufactured flavoring extracts and grocer's sundries. Hardesty's company changed names, co-owners, and specialties several times in the following decade.[11] By 1908, R. Hardesty and Company began manufacturing tin cans, presumably to package the grocer's sundries that it produced.[12] A full line of sheet metal goods grew from the tin can line; the company advertised "automatic electric arc welded pipe, corrugated culverts, tin can, irrigation gates, flumes, metal street signs, smokestacks, sheet metal products" in the 1927 Colorado State Business Directory. Irrigation supplies were available at least as early as 1916 or 1918 when the company published its "Irrigation Supple Catalogue No. 11."[13] Colorado State business directories indicate that R. Hardesty's business "took off" in the mid- to late 1920s, when its description of products was enlarged and bold lettering added to the company name in its advertisements.[14] Branch firms were established in Utah, Idaho, and Montana around that time to distribute Hardesty's sheet metal products.[15] R. Hardesty and Company operated independently after Rudd Hardesty's retirement in 1929. In 1942 or 1943, it was acquired by the American Rolling Mill Company and became known as Armco's Hardesty Division.[16]

The galvanized flume sections similar to those found at the Kimmerly Flume are shown in the R. Hardesty Company's No. 11 Irrigation Supply Catalogue, published in ca. 1916. The contents of the 1916 catalog lend substance to the recollections of Avon-area residents who remember that the flume was erected in the 1920s.

D. The American Rolling Mill Company

The American Rolling Mill Company was found in Middletown, Ohio, in 1900 by George M. Verity, after city officials launched a search for new industry. Verity's ambitious plan included the manufacture of steel products from pig iron, with operations concentrated at a single plant. The factory consisted of a blast furnace, rolling mills, galvanizing pots, and a fabricating section.

The company grew to become one of the largest steel companies in the United States, absorbing numerous other steel mills and fabricators in the process. One of the companies eventually absorbed by the American Rolling Mill Company (renamed ARMCO Steel Corporation in 1948) was R. Hardesty.[17]

> Among the American Rolling Mill Company's highly-touted inventions was the patent for ingot iron. The product, patented in 1909, was developed "in response to the need for rustless fence wire."[18] Ingot iron was a material that owed its superior rust-resistance to the careful attention to detail during manufacture, "watchful supervision," and studious inspection.[19]

II. DESCRIPTION OF THE KIMMERLY FLUME

The ditch and flume together measure about 3-1/4 miles long. Water was diverted from the Little Blackfoot River about 3-1/2 miles east of Avon in Section 31, Township 10 North, Range 7 West. From the point of diversion, a ditch runs southwest across the floodplain of the Little Blackfoot, crosses the existing highway as it heads south, and begins to cut into the edge of a series of short hills that rise above the valley floor. Once the ditch begins to round a rocky outcrop, historically known as "Kimmerly Point," the water flowed into the flume. The flume ran about 2,000 feet. An additional segment of ditch carried the water another 3/8 mile from the end of the flume to the field to be irrigated (see Figure 1).[20]

The timber trestle which supports the metal flume consists of 4 by 4-inch posts fixed by 1 inch by 6 inch cross or sway braces (see Figure 2). The posts occasionally rests on natural rock, but in most instances the posts were planted. The tops of the posts are nailed to 12 feet 2 inch by 6 inch stringers, placed on either side of the exterior to edge of the flame.

Two by six inch knee braces are nailed to the posts and stringers. The height of the trestle varies; at its tallest, the trestle holds the flume about 12 feet above the level of the ground. Cross bars used to stabilize the structure are 1 inch by 4 inch lumber, placed perpendicular to the line of the flume. Originally, they were nailed to the stringers where the knee braces intersected the stringers (approximately every 4 feet). Over the years, others have been nailed across the top of the flume, where additional stability was required.

The metal flume itself is a half round of sheet metal measuring 26-28 inches in diameter and built in 10-foot sections. The flume is attached to the stringers by a detailed system of rods and hanger plates. the joints between 10-foot sections of the metal flume are labeled the "Lennon type" by the R. Hardesty Manufacturing Company. Each joint is made by overlapping the ends of adjacent flume sections, placing two 5/6-inch rods around the exterior of the flume, laying a 11/16-inch half round bar between the two rods but on the interior of the flume (see Figure 2). The ends of the rods are threaded through a hanger plate which hangs over the top of the flume and stringer. Nuts are tightened onto the threaded ends of each rod against the hanger plate. The half round bar operates in compression against the rods to create a tight seal. Halfway between each flume joint, a single 5/16-inch rod supports the bottom of the flume to prevent it from sagging between joints.

The galvanized flume sections were marked "R. Hardesty & CO" and with the ARMCO trademark, a triangle across with "ARMCO Ingot Iron" is printed.

Post-construction maintenance of the flume is evident in the form of metal strips attached to the interior seams to minimize water loss, and irregular spacing of cross bars (see above).

III. FUTURE OF THE KIMMERLY DITCH AND FLUME

Recent construction by Montana Department of Highways along U.S. Highway 12 in the Avon area has destroyed all but about 500 linear feet of the flume on Kimmerly Point. Previously, approximately 100 feet was destroyed by parties unknown during gravel mining. Much of the ditch, while no longer in use, remains in its original condition. A short section of the flume has been salvaged by the Montana Historical Society and is currently in storage in Helena.

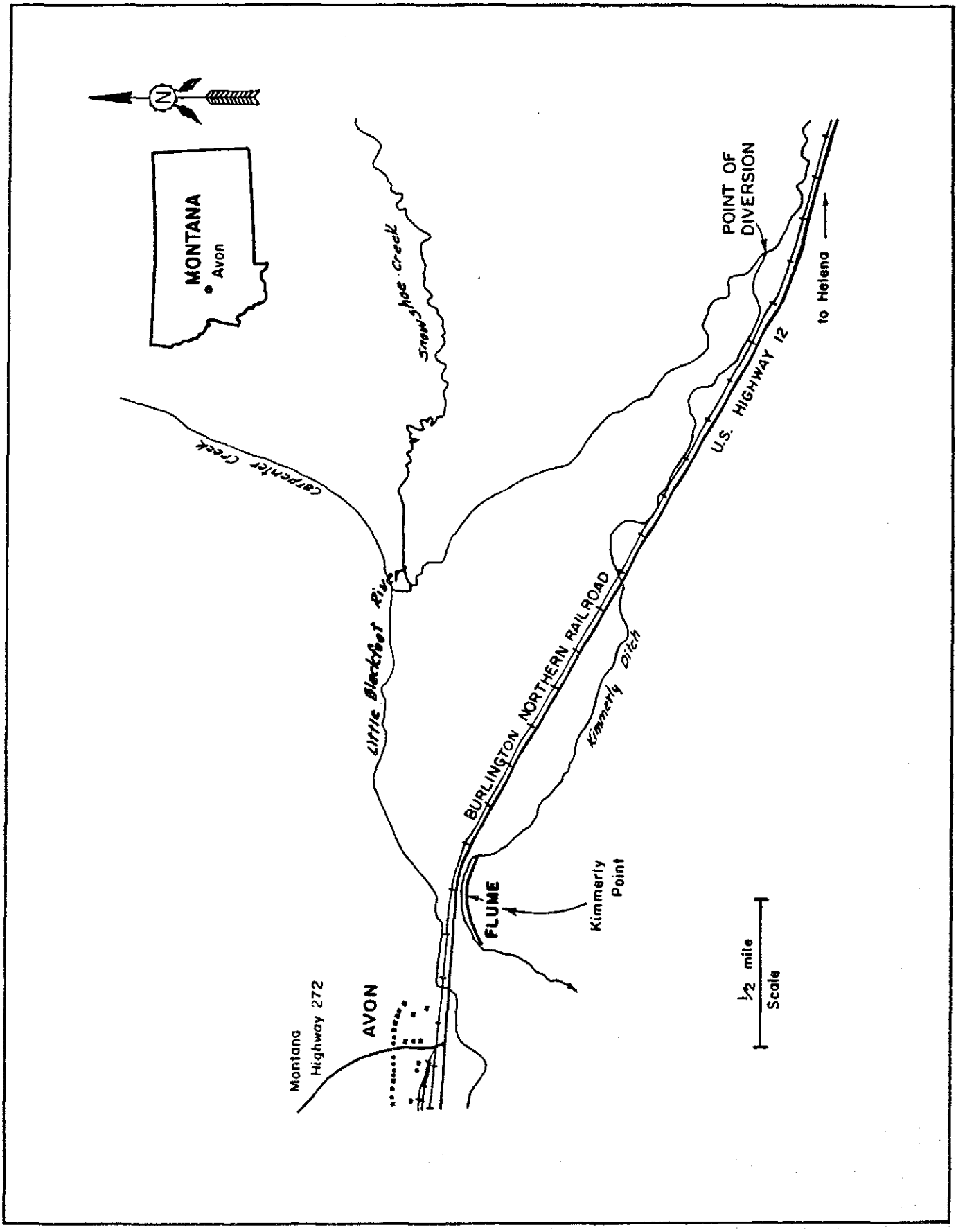
N
MONTANA
Avon
Carpenter Creek
Little Blackfoot River
Snowshoe Creek
POINT OF DIVERSION
to Helena
U.S. HIGHWAY 12
BURLINGTON NORTHERN RAILROAD
Kimmerly Ditch
FLUME
Kimmerly Point
AVON
Montana Highway 272
½ mile
Scale

FIGURE 1

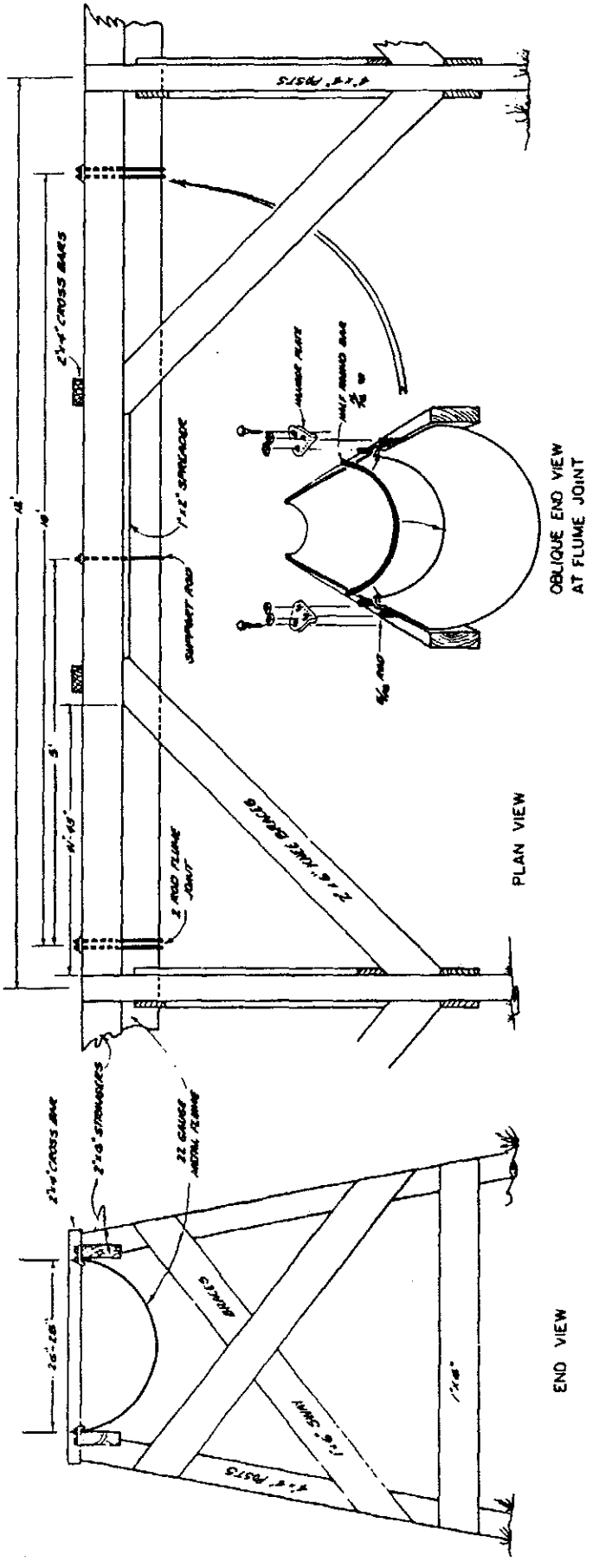
KIMMERLY FLUME
AVON, MONTANA
PLAN VIEW
OBLIQUE END VIEW
AT FLUME JOINT
END VIEW

FIGURE 2

IV. ENDNOTES

1. Avon Get Together Club, Our Neighborhood: Newsy and Nosey. Spokane: Evergreen Press, 1949, pp. 89-90; Powell County Deed records Book Y, p. 9; Dan T. Davis of Helena, Montana, telephone interview by author, February 29, 1989.

2. Powell County Death Certificates for Alfred and Sarah Kimmerly; Powell County Deed Records Book 14, p. 155, and deed dated September 29, 1944, transferring land from Kimmerly Brothers and Company to George V. and Eva C. Davis; Loy Mizner of Deer Lodge, Montana, telephone interview by author, May 24, 1989.

3. Davis, 1989.

4. Mizner, 1989. The exact year of construction could not be determined through either archival research or oral history interviews.

5. Davis, 1989.

6. Mizner, 1989. Jerry was a long-time resident of the Avon area; he and his parents had moved there in 1987 when Jerry was a boy. Jerry ran a butcher shop, did some ranching, and eventually settled at being a carpenter. ...Avon Get Together Club, pp. 95-96.

7. Davis, 1989, Mizner, 1989.

8. Silver State Post (Deer Lodge), March 23, 1933.

9. Montana Department of Highways, Plans for Federal Aid Highway Project 249-B, Sheets 3 and 5.

10. "Great Businesses Grow from Ideals!," Rocky Mountain News, Denver, April 22, 1934, sec. D, p. 5.

11. Ballenger and Richards Denver Director, 1891-1899.

12. Colorado State Business Directory, 1908; "The R. Hardesty Manufacturing Co.," Denver Times, November 17, 1902.

13. The R. Hardesty Manufacturing Co., Irrigation Supply Catalogue No. 11, [1916]. In 1934, the Rocky Mountain News reported that irrigation equipmment was made as early as 1899, but that date is not confirmed by the Colorado and Denver business directories.

14. Colorado State Business Directory, 1908-1956.

15. Rocky Mountain News, 1934.

16. Denver Post, May 31, 1948, p. 19; Colorado Statw Business Director, 1943.

17. ARMCO Steel Corporation, ARMCO Today--75th Anniversary Issue, Middleton, Ohio, 1975, pp. 3, 4, 6, 28, and 30; Colorado State Business Directory, 1943.

18. ARMCO Steel Corporation, 1975, p. 28.

19. The American Rolling Mill Co., The Story of Commercially Pure Iron, and Why It Resists Rust, Middleton, Ohio, 1924, pp. 21-22.

20. This document describes the flume in some detail because it was the part of the system most impacted by recent highway construction. The ditch is not covered here because it still exists in its original location.

V. BIBLIOGRAPHY

A. Books

Avon Get Together Club. Our Neighborhood: Newsy and Nosey. Spokane: Evergreen Press, 1949.

Ballenger and Richards Denver Directories, 1891-1923.

Colorado State Business Directories, 1908-1956.

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B. Articles and Papers

The American Rolling Mill Company. The Story of Commercially Pure Iron, and Why It Resists Rust. Middleton, Ohio, 1924.

ARMCO Steel Corporation, ARMCO Today--75th Anniversary Issue. Middleton, Ohio, 1975.

c. Newspapers

Denver Post, May 31, 1948, p. 19.

"The R. Hardesty Manufacturing Co.," Denver Times, November 17, 1902, sec. 2, p. 6.

"Great Business Grow from Ideals!" Rocky Mountain News, Denver, April 22, 1934, sec. D, p. 5.

Silver State Post (Deer Lodge), March 23, 1933, p. 1.

D. Government Records

Montana Department of Highways. Plans for Federal Aid Project 249-B, Sheets 3 and 5.

Powell County "Death Certificates," Powell County Courthouse, Deer Lodge, Montana. For Alfred Kimmerly, May 14, 1910, and Sarah Kimmerly, January 23, 1913.

Powell County "Deed Records," Powell County Courthouse, Deer Lodge, Montana.

E. Interviews

Davis, Dan T. Interview by author, February 28, 1989, Helena, Montana. Telephone interview.

Mizner, Loy. Interview by author, May 24, 1989. Deer Lodge, Montana. Telephone interview.